

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/560, 470
Source: IFWP
Date Processed by STIC: 12/28/2005

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/560,470

DATE: 12/28/2005

TIME: 12:42:59

Input Set : A:\Lannigan.00910-05.txt
 Output Set: N:\CRF4\12282005\J560470.raw

3 <110> APPLICANT: University of Virginia Patent Foundation
 4 Lannigan-Macara, Deborah A.
 5 Henrich, Lorin M.
 6 Smith, Jeffrey A.
 8 <120> TITLE OF INVENTION: ERK7 and ERK8, Novel Diagnostic Markers for Cancer
 10 <130> FILE REFERENCE: 00910-05
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/560,470
 C--> 12 <141> CURRENT FILING DATE: 2005-12-14
 12 <150> PRIOR APPLICATION NUMBER: US 60478,992
 13 <151> PRIOR FILING DATE: 2003-06-17
 15 <150> PRIOR APPLICATION NUMBER: PCT/US2004/019181
 16 <151> PRIOR FILING DATE: 2004-06-17
 18 <160> NUMBER OF SEQ ID NOS: 6
 20 <170> SOFTWARE: PatentIn version 3.1
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 484
 24 <212> TYPE: PRT
 25 <213> ORGANISM: Homo sapiens
 27 <400> SEQUENCE: 1
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 37 Arg Arg Thr Gly Glu Val Val Ala Ile Lys Lys Ile Phe Asp Ala Phe
 38 35 40 45
 41 Arg Asp Lys Thr Asp Ala Gln Arg Thr Phe Arg Glu Ile Thr Leu Leu
 42 50 55 60
 45 Gln Glu Phe Gly Asp His Pro Asn Ile Ile Ser Leu Leu Asp Val Ile
 46 65 70 75 80
 49 Arg Ala Glu Asn Asp Arg Asp Ile Tyr Leu Val Phe Glu Phe Met Asp
 50 85 90 95
 53 Thr Asp Leu Asn Ala Val Ile Arg Lys Gly Gly Leu Leu Gln Asp Val
 54 100 105 110
 57 His Val Arg Ser Ile Phe Tyr Gln Leu Leu Arg Ala Thr Arg Phe Leu
 58 115 120 125
 61 His Ser Gly His Val Val His Arg Asp Gln Lys Pro Ser Asn Val Leu
 62 130 135 140
 65 Leu Asp Ala Asn Cys Thr Val Lys Leu Cys Asp Phe Gly Leu Ala Arg
 66 145 150 155 160
 69 Ser Leu Gly Asp Leu Pro Glu Gly Pro Glu Asp Gln Ala Val Thr Glu
 70 165 170 175
 73 Tyr Val Ala Glu Asp Leu Leu Ala Leu Gly Ser Gly Cys Arg Ala Ser
 74 180 185 190

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77 Val Leu His Gln Leu Gly Ser Arg Pro Arg Gln Thr Leu Asp Ala Leu
 78 195 200 205
 81 Leu Pro Pro Asp Thr Ser Pro Glu Ala Leu Asp Leu Leu Arg Arg Leu
 82 210 215 220
 85 Leu Val Phe Ala Pro Asp Lys Arg Leu Ser Ala Thr Gln Ala Leu Gln
 86 225 230 235 240
 89 His Pro Tyr Val Gln Arg Phe His Cys Pro Ser Asp Glu Trp Ala Arg
 90 245 250 255
 93 Glu Ala Asp Val Arg Pro Arg Ala His Glu Gly Val Gln Leu Ser Val
 94 260 265 270
 97 Pro Glu Tyr Arg Ser Arg Val Tyr Gln Met Ile Leu Glu Cys Gly Gly
 98 275 280 285
 101 Ser Ser Gly Thr Ser Arg Glu Lys Gly Pro Glu Gly Val Ser Pro Ser
 102 290 295 300
 105 Gln Ala His Leu His Lys Pro Arg Ala Asp Pro Gln Leu Pro Ser Arg
 106 305 310 315 320
 109 Thr Pro Val Gln Gly Pro Arg Pro Arg Pro Gln Ser Ser Pro Gly His
 110 325 330 335
 113 Asp Pro Ala Glu His Glu Ser Pro Arg Ala Ala Lys Asn Val Pro Arg
 114 340 345 350
 117 Gln Asn Ser Ala Pro Leu Leu Gln Thr Ala Leu Leu Gly Asn Gly Glu
 118 355 360 365
 121 Arg Pro Pro Gly Ala Lys Glu Ala Pro Pro Leu Thr Leu Ser Leu Val
 122 370 375 380
 125 Lys Pro Ser Gly Arg Gly Ala Ala Pro Ser Leu Thr Ser Gln Ala Ala
 126 385 390 395 400
 129 Ala Gln Val Ala Asn Gln Ala Leu Ile Arg Gly Asp Trp Asn Arg Gly
 130 405 410 415
 133 Gly Gly Val Arg Val Ala Ser Val Gln Gln Val Pro Pro Arg Leu Pro
 134 420 425 430
 137 Pro Glu Ala Arg Pro Gly Arg Arg Met Phe Ser Thr Ser Ala Leu Gln
 138 435 440 445
 141 Gly Ala Gln Gly Gly Ala Arg Ala Leu Leu Gly Gly Tyr Ser Gln Ala
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 155 <212> TYPE: PRT
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 164 Lys Arg Arg Leu Gly Lys Gly Ala Tyr Gly Ile Val Trp Lys Ala Met
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 168 Asp Arg Arg Thr Gly Glu Val Val Ala Ile Lys Lys Ile Phe Asp Ala
 169 35 40 45
 172 Phe Arg Asp Gln Thr Asp Ala Gln Arg Thr Phe Arg Glu Ile Met Leu

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176	Leu Arg Glu Phe Gly Gly His Pro Asn Ile Ile Arg Leu Leu Asp Val		
177	65	70	75 80
180	Ile Pro Ala Lys Asn Asp Arg Asp Ile Tyr Leu Val Phe Glu Ser Met		
181	85	90	95
184	Asp Thr Asp Leu Asn Ala Val Ile Gln Lys Gly Arg Leu Leu Glu Asp		
185	100	105	110
188	Ile His Lys Arg Cys Ile Phe Tyr Gln Leu Leu Arg Ala Thr Lys Phe		
189	115	120	125
192	Ile His Ser Gly Arg Val Ile His Arg Asp Gln Lys Pro Ala Asn Val		
193	130	135	140
196	Leu Leu Asp Ala Ala Cys Arg Val Lys Leu Cys Asp Phe Gly Leu Ala		
197	145	150	155 160
200	Arg Ser Leu Ser Asp Phe Pro Glu Gly Pro Gly Gln Ala Leu Thr		
201	165	170	175
204	Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu Val Leu Leu Ser		
205	180	185	190
208	Ser Arg Trp Tyr Thr Pro Gly Val Asp Met Trp Ser Leu Gly Cys Ile		
209	195	200	205
212	Leu Gly Glu Met Leu Arg Gly Gln Pro Leu Phe Pro Gly Thr Ser Thr		
213	210	215	220
216	Phe His Gln Leu Glu Leu Ile Leu Glu Thr Ile Pro Leu Pro Ser Met		
217	225	230	235 240
220	Glu Glu Leu Gln Gly Leu Gly Ser Asp Tyr Ser Ala Leu Ile Leu Gln		
221	245	250	255
224	Asn Leu Gly Ser Arg Pro Arg Gln Thr Leu Asp Ala Leu Leu Pro Pro		
225	260	265	270
228	Asp Thr Pro Pro Glu Ala Leu Asp Leu Leu Lys Arg Leu Leu Ala Phe		
229	275	280	285
232	Ala Pro Asp Lys Arg Leu Ser Ala Glu Gln Ala Leu Gln His Pro Tyr		
233	290	295	300
236	Val Gln Arg Phe His Cys Pro Asp Arg Glu Trp Thr Arg Gly Ser Asp		
237	305	310	315 320
240	Val Arg Leu Pro Val His Glu Gly Asp Gln Leu Ser Ala Pro Glu Tyr		
241	325	330	335
244	Arg Asn Arg Leu Tyr Gln Met Ile Leu Glu Arg Arg Arg Asn Ser Arg		
245	340	345	350
248	Ser Pro Arg Glu Glu Asp Leu Gly Val Val Ala Ser Arg Ala Glu Leu		
249	355	360	365
252	Arg Ala Ser Gln Arg Gln Ser Leu Lys Pro Gly Val Leu Pro Gln Val		
253	370	375	380
256	Leu Ala Glu Thr Pro Ala Arg Lys Arg Gly Pro Lys Pro Gln Asn Gly		
257	385	390	395 400
260	His Gly His Asp Pro Glu His Val Glu Val Arg Arg Gln Ser Ser Asp		
261	405	410	415
264	Pro Leu Tyr Gln Leu Pro Pro Pro Gly Ser Gly Glu Arg Pro Pro Gly		
265	420	425	430
268	Ala Thr Gly Glu Pro Pro Ser Ala Pro Ser Gly Val Lys Thr His Val		
269	435	440	445

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272 Arg Ala Val Ala Pro Ser Leu Thr Ser Gln Ala Ala Gln Ala Ala
 273 450 455 460
 276 Asn Gln Pro Leu Ile Arg Ser Asp Pro Ala Arg Gly Gly Gly Pro Arg
 277 465 470 475 480
 280 Ala Val Gly Ala Arg Arg Val Pro Ser Arg Leu Pro Arg Glu Ala Pro
 281 485 490 495
 284 Glu Pro Arg Pro Gly Arg Arg Met Phe Gly Ile Ser Val Ser Gln Gly
 285 500 505 510
 288 Ala Gln Gly Ala Ala Arg Ala Ala Leu Gly Gly Tyr Ser Gln Ala Tyr
 289 515 520 525
 292 Gly Thr Val Cys Arg Ser Ala Leu Gly Arg Leu Pro Leu Leu Pro Gly
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 297 545
 300 <210> SEQ ID NO: 3
 301 <211> LENGTH: 549
 302 <212> TYPE: PRT
 303 <213> ORGANISM: Mus musculus
 305 <400> SEQUENCE: 3
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 308 1 5 10 15
 311 Lys Arg Arg Leu Gly Lys Gly Ala Tyr Gly Ile Val Trp Lys Ala Met
 312 20 25 30
 315 Asp Arg Arg Thr Gly Glu Val Val Ala Ile Lys Lys Ile Phe Asp Ala
 316 35 40 45
 319 Phe Arg Asp Gln Ile Asp Ala Gln Arg Thr Phe Arg Glu Ile Met Leu
 320 50 55 60
 323 Leu Lys Glu Phe Gly Gly His Pro Asn Ile Ile Arg Leu Leu Asp Val
 324 65 70 75 80
 327 Ile Pro Ala Lys Asn Asp Arg Asp Ile Tyr Leu Val Phe Glu Ser Met
 328 85 90 95
 331 Asp Thr Asp Leu Asn Ala Val Ile Gln Lys Gly Arg Leu Leu Lys Asp
 332 100 105 110
 335 Ile His Lys Arg Cys Ile Phe Tyr Gln Leu Leu Arg Ala Thr Lys Phe
 336 115 120 125
 339 Ile His Ser Gly Arg Val Ile His Arg Asp Gln Lys Pro Ala Asn Val
 340 130 135 140
 343 Leu Leu Asp Ser Ala Cys Arg Val Lys Leu Cys Asp Phe Gly Leu Ala
 344 145 150 155 160
 347 Arg Ser Leu Gly Asp Leu Pro Glu Gly Pro Gly Gly Gln Ala Leu Thr
 348 165 170 175
 351 Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu Val Leu Leu Ser
 352 180 185 190
 355 Ser Arg Trp Tyr Thr Pro Gly Val Asp Met Trp Ser Leu Gly Cys Ile
 356 195 200 205
 359 Leu Gly Glu Met Leu Arg Gly Gln Pro Leu Phe Pro Gly Thr Ser Thr
 360 210 215 220
 363 Phe His Gln Leu Glu Leu Ile Leu Lys Thr Ile Pro Leu Pro Ser Met
 364 225 230 235 240

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367 Glu Glu Leu Gln Asp Leu Gly Ser Asp Tyr Ser Ala Leu Ile Leu Gln
 368 245 250 255
 371 Asn Leu Gly Ser Arg Pro Gln Gln Thr Leu Asp Ala Leu Leu Pro Pro
 372 260 265 270
 375 Asp Thr Pro Pro Glu Ala Leu Asp Leu Leu Lys Arg Leu Leu Ala Phe
 376 275 280 285
 379 Ala Pro Asp Lys Arg Leu Ser Ala Glu Gln Ala Leu Gln His Pro Tyr
 380 290 295 300
 383 Val Gln Arg Phe His Cys Pro Asp Arg Glu Trp Ala Arg Glu Ser Asp
 384 305 310 315 320
 387 Val Arg Leu Pro Val His Glu Gly Asp Gln Leu Ser Ala Pro Glu Tyr
 388 325 330 335
 391 Arg Lys Arg Leu Tyr Gln Ile Ile Leu Glu Gln Ser Gly Asn Ser Arg
 392 340 345 350
 395 Ser Pro Arg Glu Glu Gly Leu Gly Val Val Ala Ser Arg Ala Glu Leu
 396 355 360 365
 399 Arg Ala Ser Pro Ala Arg Thr Gln Ser Leu Lys Ser Gly Val Leu Pro
 400 370 375 380
 403 Gln Val Pro Ala Glu Thr Pro Ala Arg Lys Arg Gly Pro Lys Pro Pro
 404 385 390 395 400
 407 Arg Ser Pro Gly His Asp Pro Glu His Val Glu Val Arg Arg Gln Ser
 408 405 410 415
 411 Ser Asp Pro Leu Phe Gln Leu Pro Pro Pro Gly Arg Gly Glu Arg Pro
 412 420 425 430
 415 Pro Gly Ala Thr Gly Gln Pro Pro Ser Ala Pro Ser Gly Val Lys Thr
 416 435 440 445
 419 Gln Val Arg Ala Met Ala Pro Ser Leu Thr Ser Gln Ala Glu Ala Gln
 420 450 455 460
 423 Ala Ala Asn Gln Ala Leu Ile Arg Ser Asp Pro Ala Arg Gly Gly Gly
 424 465 470 475 480
 427 Pro Arg Ala Val Gly Ala Arg Arg Val Pro Ser Arg Leu Pro Arg Glu
 428 485 490 495
 431 Ala Pro Glu Pro Arg Pro Gly Arg Arg Met Phe Gly Ile Ser Val Ser
 432 500 505 510
 435 Gln Gly Ala Gln Gly Ala Ala Arg Ala Ala Leu Gly Gly Tyr Ser Gln
 436 515 520 525
 439 Ala Tyr Gly Thr Val Cys Arg Ser Ala Leu Gly Arg Leu Pro Leu Leu
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 443 Pro Gly Pro Arg Ala
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 447 <210> SEQ ID NO: 4
 448 <211> LENGTH: 16
 449 <212> TYPE: PRT
 450 <213> ORGANISM: Rattus norvegicus
 452 <400> SEQUENCE: 4
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 455 1 5 10 15
 458 <210> SEQ ID NO: 5
 459 <211> LENGTH: 7

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/560,470

DATE: 12/28/2005

TIME: 12:43:00

Input Set : A:\Lannigan.00910-05.txt
Output Set: N:\CRF4\12282005\J560470.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date